AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application. Please cancel claims 1-40, 42, 43, 45-48, 53, 58, 61, 63, 67-70, and 72-113 without prejudice. Please amend the claims as indicated below.

1-40. (Canceled).

41. (Currently Amended) A library consisting of a plurality of water-soluble peptidic substrates, wherein each peptidic substrate member of the library has the general formula:

$$*F\text{-}R_1\text{-}L_1\text{-}R_2\text{-}P_{Hc1}\text{-}P_S\text{-}P_{Hc2}\text{-}(R_3\text{-}L_2\text{-}R_4\text{-}T)_y$$

wherein *F is a detectable moiety with a molecular weight of less than 5 kD;

R_1, R_2, R_3, and R_4 are each, independently: a covalent bond or a covalent linkage consisting of a branched or unbranched, substituted or unsubstituted, saturated or unsaturated chain of 1-10 carbon atoms; 0-3 heteroatoms selected from the group consisting of oxygen, nitrogen, and sulfur; and
further consisting of at least one linkage chosen from the group consisting of ether, ester, hydrazone, amide, thioether, thioester, thiourea, disulfide and sulfonamide linkages;

L_1 and L_2 are each independently: a branched or unbranched, hydrophilic, water-soluble, uncharged and each of L_1 and L_2 independently are of molecular weight of less than ~~about~~ 2000 Daltons;

P_{Hc1} is a peptide with the general formula $A_c(A_H)_nA_m$,
wherein A_c is selected from the group consisting of a covalent bond, ornithine, cysteine, homocysteine, cysteic acid, and lysine;

each of A_H is, independently, a charged or uncharged hydrophilic amino acid selected form the group consisting of serine, threonine, lysine, arginine, histidine, aspartic acid, glutamic acid, and cysteic, acid;

n is an integer from 0 to 10;

A_m is selected from the group consisting of a covalent bond and methionine;

P_{Hc2} is a peptide with the general formula $A_m(A_H)_nAc$,

wherein A_c if y is 1, is selected from the group consisting of a covalent bond, ornithine, cysteine, homocysteine, cysteic acid, and lysine; or, if y is 0, is a terminating group selected from the group consisting of alcohol moieties, amine moieties, ester moieties, ether moieties, carboxylic acid moieties, amide moieties, and sulfonic acid moieties;

each of A_H is, independently, a charged or uncharged hydrophilic amino acid selected from the group consisting of serine, threonine, lysine, arginine, histidine, aspartic acid, glutamic acid, and cysteic acid;

n is an integer from 0 to 10;

A_m, is selected from the group consisting of a covalent bond and methionine;

Ps is a peptide from 5 to 25 amino acids in length;

T is a terminating group selected from the group consisting of alcohol moieties, amine moieties, ester moieties, ether moieties, carboxylic acid moieties, amide moieties, sulfonic acid moieties, quencher moieties, and detectable moieties; and

y is 0 or 1.

42. (Canceled).

43. (Canceled).

44. (Original) The library of claim 41 wherein, for each member of the library, R_2 is attached to the C-terminus of the peptidic portion of the molecule.

45. (Canceled).

46. (Canceled).

47. (Canceled).

48. (Canceled).

49. (Original) The library of claim 41 wherein, for each member of the library, *F is selected from the group consisting of a fluorescent moiety, a chromogenic moiety, and a chemiluminescent moiety.

50. (Original) The library of claim 41 wherein, for each member of the library, *F is a fluorescent moiety.

51. (Original) The library of claim 50 wherein the fluorescent moiety is selected from the group consisting of $BODIPY_{630/650}$ X-SE, Texas Red X-SE, BODIPY TRX-SE, Cy-dyes, Lissamine, fluorescein, rhodamine, phycoerythrin, and coumarin.

52. (Original) The library of claim 41 wherein, for each member of the library, at least one of L_1 or L_2 is polyethylene glycol.

53. (Canceled).

54. (Previously Presented) The library of claim 41 wherein, for each member of the library, at least one of L_1 or L_2 has a molecular weight of less than about 1500 Daltons.

55. (Original) The library of claim 41 wherein, for each member of the library, at least one of L_1 or L_2 has a molecular weight of from about 500 to about 1500 Daltons.

56. (Original) The library of claim 41 wherein, for each member of the library, at least one of L_1 or L_2 has a molecular weight of from about 800 to about 1000 Daltons.

57. (Currently Amended) The library of claim 41 wherein, for each member of the library, at least one of L_1 or L_2 is a polyethylene glycol having a molecular weight from about 230 to less than ~~about~~ 2000 Daltons.

58. (Canceled).

59. (Original) The library of claim 41 wherein, for each member of the library, R_2 comprises a thioether linkage.

60. (Canceled).

61. (Canceled).

62. (Original) The library of claim 41 wherein, for each member of the library, for at least one of P_{Hc1} and P_{Hc2}, Ac comprises cysteine.

63. (Canceled).

64. (Original) The library of claim 41 wherein, for each member of the library, P_{Hc1}, has a different net charge than P_{Hc2}.

65. (Original) The library of claim 41 wherein, for each member of the library, P_{Hc1} has a negative net charge and P_{Hc2} has a positive net charge.

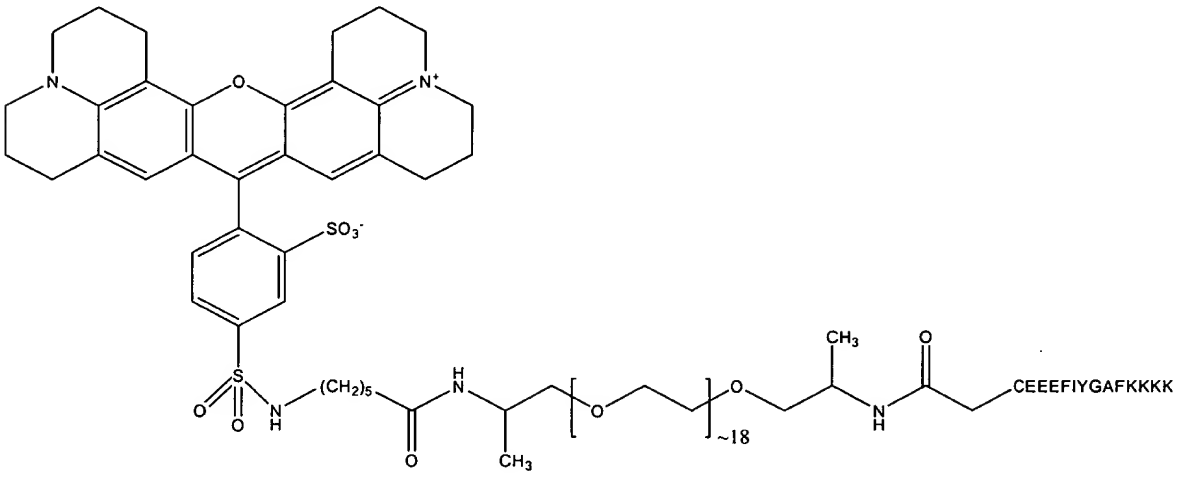
66. (Original) The library of claim 41 wherein, for each member of the library, P_{Hc1} has a positive net charge and P_{Hc2} has a negative net charge.

67-70. (Canceled).

71. (Original) The library of claim 41 wherein, for each member of the library, y is 0.

72-113. (Canceled).

114. (Previously Presented) A water-soluble peptidic substrate of the general formula:



115. (Previously Presented) The library of claim 41, wherein L_1 is PEG and L_2 is PEG.

116. (Withdrawn) The library of claim 41, wherein L_1 is a polysaccharide and L_2 is PEG.

117. (Previously Presented) The library of claim 41, wherein L_1 is PEG and L_2 is a polysaccharide.

118. (Withdrawn) The library of claim 41, wherein L_1 and L_2 are each a polysaccharide.

119. (Currently Amended) A library consisting of a plurality of water-soluble peptidic substrates, wherein each peptidic substrate member of the library has the general formula:

$$*F\text{-}R_1\text{-}L_1\text{-}R_2\text{-}P_{Hc1}\text{-}P_S\text{-}P_{Hc2}\text{-}(R_3\text{-}L_2\text{-}R_4\text{-}T)_y$$

wherein *F is a detectable moiety with a molecular weight of less than 5 kD;

R_1, R_2, R_3, and R_4 are each, independently: a covalent bond or a covalent linkage consisting of a branched or unbranched, substituted or unsubstituted, saturated or unsaturated chain of 1-10 carbon atoms; 0-3 heteroatoms selected from the group consisting of oxygen, nitrogen, and sulfur; and
further consisting of at least one linkage chosen from the group consisting of ether, ester, hydrazone, amide, thioether, thioester, thiourea, disulfide and sulfonamide linkages;

L_1 and L_2 are each independently: a branched or unbranched, hydrophilic, water-soluble, uncharged PEG polymer and each of L_1 and L_2 are independently of molecular weight of less than ~~about~~ 2000 Daltons;

P_{Hc1} is a peptide with the general formula $A_c(A_H)_nA_m$,
wherein A_c is selected from the group consisting of a covalent bond, ornithine, cysteine, homocysteine, cysteic acid, and lysine;
each of A_H is, independently, a charged or uncharged hydrophilic amino acid selected form the group consisting of serine, threonine, lysine, arginine, histidine, aspartic acid, glutamic acid, and cysteic, acid;
n is an integer from 0 to 10;
A_m is selected from the group consisting of a covalent bond and methionine;

P_{Hc2} is a peptide with the general formula $A_m(A_H)_nAc$,

wherein A_c if y is 1, is selected from the group consisting of a covalent bond, ornithine, cysteine, homocysteine, cysteic acid, and lysine; or, if y is 0, is a terminating group selected from the group consisting of alcohol moieties, amine moieties, ester moieties, ether moieties, carboxylic acid moieties, amide moieties, and sulfonic acid moieties;

each of A_H is, independently, a charged or uncharged hydrophilic amino acid selected from the group consisting of serine, threonine, lysine, arginine, histidine, aspartic acid, glutamic acid, and cysteic acid;

n is an integer from 0 to 10;

A_m, is selected from the group consisting of a covalent bond and methionine;

Ps is a peptide from 5 to 25 amino acids in length;

T is a terminating group selected from the group consisting of alcohol moieties, amine moieties, ester moieties, ether moieties, carboxylic acid moieties, amide moieties, sulfonic acid moieties, quencher moieties, and detectable moieties; and

y is 0 or 1.